REMARKS/ARGUMENTS

Applicants have responded to the objection to the drawings by providing a replacement sheet with proposed amendments to Figs. 1 and 3a.

Specifically, the Examiner has stated that, with regard to Fig. 1, there is no description for items 2 and 13 in the specification. Applicants have eliminated 13 from Fig. 1. With regard to 2, Applicants respectfully disagree since 2 labels a section line which is described in the specification, (paragraph [0011]).

Furthermore, the Examiner has stated that, with regard to Fig. 3a, there is no description for items 4 and 13. Applicants have eliminated 4 and 13 from Fig. 3a.

Claims 1-4 and 6-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tu et al., U.S. Patent No. 5,882,953 in view of Burr, U.S. Patent No. 6,093,951.

The inventive method, as claimed in amended independent claim 1, comprises "mapping the resistivity of a major surface of a semiconductive substrate by selectively measuring the resistivity of discrete locations, said discrete locations covering all areas in a predetermined grid, said predetermined grid including an entirety of said major surface; and counter-doping said locations to increase their resistivity to a substantially uniform resistivity based on said mapping," (emphasis added). The amendments to claim 1 are supported in the specification by paragraphs [0002], [0004] and [0018] and in the drawings by Figs. 3a and 4.

Tu et al. and Burr do not disclose, teach or suggest the measuring of resistivity of discrete locations on a surface of a semiconductor substrate, the discrete locations covering all areas in a predetermined grid which covers the whole surface of the semiconductor substrate. At most, Tu et al. discloses the performance of conductivity measurements in orthogonal directions within the substrate, (column 3, lines 54-56), without further specifying the locations of the measurements.

Furthermore, it is respectfully submitted that the attempted combination of Tu et al. and Burr to produce independent claim 1 is improper.

The method disclosed in Tu et al. involves supersaturating a semiconductor material with a dopant, partially activating the dopants in the supersaturated semiconductor and applying a high density current at or above an activation threshold to obtain an irreversible reduction n the resistivity of the doped semiconductor. (Column 1, lines 53 to column 2, line 8; abstract). In contrast, the inventive method herein is directed towards counter-doping certain locations on a

AMENDMENT TO THE DRAWING(S)

Please find enclosed a replacement sheet to replace the drawing sheet on which Figs. 1, 2, 3a and 3b, originally appeared with proposed amendments to Figs. 1, 2 and 3a thereon for the approval of the Examiner.

major surface to increase their resistivity, which purpose is directly opposed to the purpose of Tu et al., namely irreversible reduction of the resistivity of the doped semiconductor.

Moreover, contrary to the argument of the Examiner, it is respectfully submitted that there would be no motivation to combine Burr with Tu et al. The inventive method of Burr comprises counter-doping a channel region with an n-type dopant to achieve very low threshold voltages, but allowing dopant atom concentration to increase from the substrate surface downward in the pocket region until it reaches a concentration maximum. The counter-doping in the channel region 44 thus achieves the desired very low threshold voltages with the inevitable accompanying high resistivity, except for the pocket region portion of the claimed region with a somewhat higher threshold voltage than the remainder of the channel region. At the same time, however, a low resistance conduction path is preserved in the pocket region below the channel region because of the higher dopant concentration in the pocket region than in the surrounding well region and the absence of any counter-doping in the pocket region below the channel region. (Column 3, lines 13-60; column 7, lines 28-49; column 8, lines 1-31).

Thus, the channel region, in general, has an increased resistivity due to the counter-doping, which also decreases the threshold voltage. Even the pocket region portion of the channel region has an increased resistivity due to the counter-doping, despite the fact that the pocket region portion of the channel region has increased doping over the remainder of the well region. Thus, the net effect of a counter-doping in Burr is to increase the resistivity of the channel region, although such resistivity is increased by a lesser degree in the pocket region portion of the channel region. Nevertheless, the increase in resistivity in the channel region is directly opposed to the objective of Tu et al., which is irreversible reduction of resistivity due to additional activation of dopant which supersaturates a semiconductor material.

Since claims 2-4 and 6-8 are directly or indirectly dependent on independent claim 1, they are allowable over Tu et al. and Burr for the same reasons discussed above with respect to independent claim 1.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Tu et al. in view of Burr and further in view of Ditzel et al., U.S. Publication No. 2004/0128631. Claim 5 is directly dependent on claim 1 and is, therefore, allowable over Tu et al. and Burr for the same reasons recited above with respect to claim 1. Although Ditzel et al. discloses methods of body biasing transistors controlled by software, (page 2, paragraph [0021]), Ditzel et al. does not

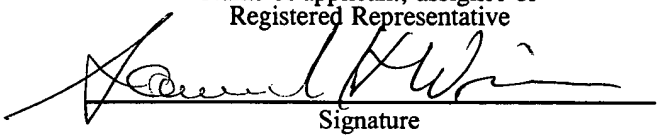
disclose, teach or suggest using a mapping of the resistivity of a major surface of a semiconductive substrate to counter-dope discrete locations on the major surface to increase their resistivity to a substantially uniform resistivity, as claimed in claim 1.

In view of the foregoing, allowance of claims 1-8 is respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 14, 2005:

Samuel H. Weiner

Name of applicant, assignee or Registered Representative

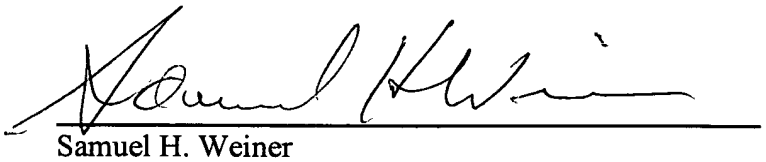


Signature

April 14, 2005

Date of Signature

Respectfully submitted,



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